

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 April 2004 (15.04.2004)

PCT

(10) International Publication Number
WO 2004/031366 A3

- (51) International Patent Classification⁷: C12Q 1/68, G01N 27/26
- (21) International Application Number: PCT/US2003/031490
- (22) International Filing Date: 2 October 2003 (02.10.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/415,542 2 October 2002 (02.10.2002) US
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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:
10 June 2004
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: MANUFACTURING METHOD AND READOUT SYSTEM FOR BIOPOLYMER ARRAYS

(57) Abstract: A method for manufacturing an array of biomolecules that have complementary binding species is disclosed. The method utilizes a master substrate containing a desired master array of binding molecules or ligands, e.g., DNA target molecules. A mixture of complementary, antiligand molecules, e.g., DNA probe molecules, are then hybridized to the ligands of the master array, forming an array of antiligand molecules reversibly bound to the molecules in the master array. The antiligand array is then transferred and bound to a separate substrate, to form a desired array of antiligand molecules on the separate substrate. The process may be repeated to produce multiple arrays or multiple generations of arrays. Also disclosed is a sensor array device and method. The device includes an array of vibratory tympanic elements, each having a specific analyte binding probe carried on the vibratory membrane of the element. A binding event is detected by a change in the vibrational resonance of a selected element.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/31490

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12Q 1/68; G01N 27/26

US CL : 435/6, 7.1, 174, 283.1, 287.2

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/6, 7.1, 174, 283.1, 287.2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST, DIALOG**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	US 6,051,380 A (SOSNOWSKI et al) 18 April 2000 (18.04.2000) columns 9, 19-21, 34 and Fig. 13.	1-8 — 9-25
X — Y	US 2002/0115198 A1 (NERENBERG et al) 22 August 2002 (22.08.2002) paragraphs 15-19, 35-39, 50, 54, 97-101.	12-21 — 23
Y	US 6,451,191 B1 (BENTSEN et al) 17 September 2002 (17.09.2002) columns 7-9, 18 and Fig. 11.	1-25

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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- "&" document member of the same patent family

Date of the actual completion of the international search

18 February 2004 (18.02.2004)

Date of mailing of the international search report

26 APR 2004

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